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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,014	08/24/2001	Mark Henrik Sandstrom		1123

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EXAMINER	
MOORE JR, MICHAEL J	
ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/938,014	SANDSTROM, MARK HENRIK	
	Examiner	Art Unit	
	Michael J. Moore, Jr.	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1 and 3-8** are rejected under 35 U.S.C. 102(e) as being anticipated by Kirkby et al. (U.S. 6,556,548) (hereinafter "Kirkby"). *Kirkby* teaches all of the limitations of the specified claims with the reasoning that follows.

Regarding claim **1**, "a network system for interconnecting a set of packet-switching network elements" is anticipated by the ring network system 200 (network system) shown in Figure 4 that interconnects nodes 1-4 (packet-switching network elements) as spoken of on column 15, lines 26-29.

"The network system comprising a set of nodes, each node configured to interface with one of the packet-switching network elements and providing a connection of variable capacity to the other nodes of the network system" is anticipated by the network element managers 210, 220, 230, 240 (set of nodes) of Figure 4 that interface with nodes 1-4 as spoken of on column 15, lines 29-31, and that provide allocated traffic flows based upon relative demand (connections of variable capacity) as spoken of on column 15, lines 30-57.

"Each one of the connections configured to transport data from its source node to its destination node and having an associated capacity and traffic load" is anticipated by the allocated traffic flows between nodes 1-4 (source and destination) having an associated demand (load) and capacity as spoken of on column 15, lines 30-57.

Lastly, "the capacity of each connection controlled from its destination node based at least in part on the traffic loads associated with the connections configured to transport data to that destination node" is anticipated by the network element managers 210, 220, 230, 240 (destination nodes) of Figure 4 that pass relative demand information (traffic load) to each other to regulate resource allocation (capacity allocation) to traffic flows as spoken of on column 16, lines 1-25.

Regarding claim **3**, "wherein the traffic loads and the capacities associated with the connections between the set of nodes are dynamic variables" is anticipated by the allocated traffic flows (connections) between nodes 1-4 having an associated demand (load) and capacity as spoken of on column 15, lines 30-57.

Regarding claim **4**, "where the capacities of the connections are cyclically optimized with a cycle time that is constant during regular system operation" is anticipated by the relative demand information that is passed around the network among the network element managers 210, 220, 230, 240 at all times as spoken of on column 16, lines 22-24.

Regarding claim **5**, "wherein a number, up to all, of the nodes are physically located at a single physical platform or are attached to a single chassis" is anticipated by network element manager 210 located at node 1 of Figure 4.

Regarding claim **6**, "wherein one or more of the nodes are integrated into their associated packet-switching network elements" is anticipated by network element manager 210 located at node 1 of Figure 4.

Regarding claim **7**, "wherein the system is at least in part a sub-network of a multi-use or public network, with additional network elements, which do not actively participate in the operation of the thus created sub-network, in pass-through mode either between the nodes or in between the packet-switching network elements and the nodes of the sub-network" is anticipated by nodes 1-4 of Figure 4 that are associated with user terminals (additional network elements) as spoken of on column 15, lines 35-40.

Regarding claim **8**, "wherein one or more of the packet-switching network elements comprises a network system as defined in claim 1" is anticipated by network element managers 210, 220, 230, 240 coupled to nodes 1-4 of Figure 4.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim **2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkby et al. (U.S. 6,556,548) (hereinafter "Kirkby") in view of Dai et al. (U.S. 6,246,692) (hereinafter "Dai").

Regarding claim **2**, *Kirkby* teaches the network system of claim **1**. *Kirkby* does not explicitly teach where the network system is configured to set the capacity of a connection to zero when the connection has no traffic load associated therewith.

However, *Dai* teaches a packet switching fabric 10 coupled to a plurality of network nodes via links 15 in Figure 1, where after a last burst of packet data in a channel is read out (no remaining load), the channel bandwidth (capacity) for that particular channel is released as spoken of on column 11, lines 46-50.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to combine the bandwidth teachings of *Dai* with the system of *Kirkby* in order to release bandwidth from unneeded connections for reallocation to connections needing additional capacity.

Response to Arguments

5. Applicant's arguments filed 6/29/06 have been fully considered but they are not persuasive.

Regarding claim **1**, Applicant argues that *Kirkby* does not disclose a network system in which the connection capacities are controlled from their destination nodes and rather involves either a central controller or local (source) nodes.

However, it is held that the network element managers 210, 220, 230, and 240 of Figure 4 serve as source nodes as well as destination nodes that pass relative demand information (traffic load) to each other in order to regulate resource allocation (capacity allocation) to traffic flows as spoken of on column 16, lines 1-25.

Further, referring to column 15, lines 34-40, it is stated how in the ring 200 of Figure 4, there are 16 source-sink pairs, where each node can send information to all 4 nodes including itself. Therefore, in 4 of the traffic flows, the source node (network manager) is also functioning as a destination node.

Thus, it is held that *Kirkby* teaches that the capacity of each connection that is controlled from its destination node is based at least in part on the traffic loads associated with the connections configured to transport data to that destination node.

Applicant also argues that *Kirkby* does not disclose that the destination node's control of each connection is "based at least in part on the traffic loads associated with the connections configured to transport data to that destination node" and that the "demand information" of *Kirkby* does not equate to the claimed traffic loads.

However, it is held that the calculated relative demand, $D_r(t)$, of resources spoken of on column 15, lines 41-57 is a time-varying function that measures how busy resources are with respect to the capacity of those resources. It is held that this teaching constitutes a measure of traffic load.

Applicant also argues that *Kirkby* does not disclose a network system with variable capacity connections.

However, it is held that as the calculated relative demand, $D_r(t)$, of resources spoken of on column 15, lines 41-57 is a time-varying function, that variable capacity connections are present in the network of Figure 4.

Further, on column 16, lines 4-10, it is stated that at the start of the network, the relative demands between resources are assumed to be random, which implies that

variable capacity connections are present initially in the network until the network settles down.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:00am - 4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael J. Moore, Jr.
Examiner
Art Unit 2616

mjm MM

Seema S. Rao 8/30/06
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